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10/055,727	01/23/2002	Gary Mark Leach	81475-250576	6224
7590 10/01/2004				
Pillsbury Winthrop LLP Intellectual Property Group Suite 2800 725 South Figueroa Street Los Angeles, CA 90017-5406			EXAMINER NGUYEN, KIM T	
			ART UNIT 3713	PAPER NUMBER
DATE MAILED: 10/01/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/055,727	Applicant(s) LEACH ET AL.	
	Examiner Kim Nguyen	Art Unit 3713	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 June 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-90 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-90 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### DETAILED ACTION

Applicant's election without traverse of Group I, claims 1-90, on June 10, 2004 is acknowledged. Currently, claims 91-121 have been canceled, and claims 1-90 are pending.

#### *Claim Objections*

1. Claims 2-3, 6-12, 16, 20, 22-27, 33, 40-44, 50-51, 61-62, 67-68, 71, 80 are objected to because of the following informalities:
  - a) In claim 2, line 4; claim 10, line 1, the claimed limitation "track path data" should be corrected to "said track path data".
  - b) In claim 3, line 1, the claimed limitation "a path" should be corrected to "said path".
  - c) In claim 6, line 1; claim 9, line 1, the claimed limitation "the shape" should be corrected to "a shape".
  - d) In claim 7, line 1, the claimed limitation "bend" should be corrected to "said bend".
  - e) In claim 8, line 3, the claimed limitation "successive elementary segments" should be corrected to "said successive elementary segments".
  - f) In claim 11, line 2, the claimed limitation "each position vector" should be corrected to "said associated position vector".
  - g) In claim 12, line 2, the claimed limitation "the path" should be corrected to "a path".
  - h) In claim 16, line 1, the claimed limitation "a plurality of members" should be corrected to "said members".
  - i) In claim 16, line 2, the claimed limitation "input" should be corrected to "inputted".

- j) In claim 16, line 3, the claimed limitation “the said” should be corrected to “said”.
- k) In claim 20, line 2, the claimed limitation “set are input” should be corrected to “set of co-ordinates are inputted”.
- l) In claim 22, line 1, the claimed limitation “the display” should be corrected to “the computer screen”.
- m) In claim 23, line 1, the claimed limitation “the camera position” should be corrected to “the predetermined camera position”.
- n) In claim 24, line 1, the claimed limitation “the camera” should be corrected to “camera”.
- o) In claim 25, line 2, the claimed limitation “the developing path” should be corrected to “developing path”.
- p) In claim 26, line 2; claim 27, lines 1-2, the claimed limitation “the form” should be corrected to “a form”.
- q) In claim 27, line 3, the claimed limitation “the camera” should be corrected to “a camera”.
- r) In claim 33, line 2, the claimed limitation “the height” should be corrected to “a height”.
- s) In claim 40, line 2; claim 42, lines 1-2, the claimed limitation “the virtual world” should be corrected to “a virtual world”.
- t) In claim 41, line 5, the claimed limitation “the magnitudes” should be corrected to “magnitudes”.
- u) In claim 41, line 6, the claimed limitation “a predetermined side” should be corrected to “said predetermined side”.

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- v) In claim 43, line 1, the claimed limitation “the number” should be corrected to “a number”.
- w) In claim 43, line 2, the claimed limitation “the necessary calculations” should be corrected to “necessary calculations”.
- x) In claim 44, line 1, the claimed limitation “the far” should be corrected to “a far”.
- y) In claim 44, line 2, the claimed limitation “the distance that the camera” should be corrected to “a distance that a camera”.
- z) In claim 50, line 2, the claimed limitation “track path data” should be corrected to “said track path data”.
- a1) In claim 51, line 1, the claimed limitation “the storage” should be corrected to “the stored track path data”.
- b1) In claim 61, line 2, the claimed limitation “the direction” should be corrected to “a direction”.
- c1) In claim 62, lines 1-2, the claimed limitation “the area of track” should be corrected to “an area of the track”.
- d1) In claim 67, line 2, the claimed limitation “the user” should be corrected to “a user”.
- e1) In claim 68, line 2, the claimed limitation “the surface” should be corrected to “a surface”.
- f1) In claim 71, line 2, the claimed limitation “track” should be corrected to “the track”.
- g1) In claim 80, line 1, the claimed limitation “an object” should be corrected to “the object”.

Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

- a) Claim 1 does not include any step in the method claim.
- b) Claims 2-52 are rejected as being dependent on the rejected base claim.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 46-47, 53-58, and 83-89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a) In claim 46, line 2; and claim 47, line 2, the claimed limitation “between two successive updates” is ambiguous. It is not clear what is the “two successive”? It is not clear if the “two successive” refers to “two successive time frames”, or “two successive track path data”, or “two successive paths”.

- b) In claim 46, line 3; and claim 47, line 3, the claimed limitation “each frame” is ambiguous. It is not clear if the “frame” refers to “time frame”, or “frame of polygons”, or “frame of track path data”.
- c) The dependency status of claim 53 is ambiguous. It is not clear if claim 53 is an independent claim or a dependent claim. If claim 53 is a dependent claim, claim 53 will be rejected under 112-4th paragraph for failing to further limit the method of claim 1. If claim 53 is an independent claim, the format for drafting claim 53 is inappropriate, and could be cause confusion in fee calculation.
- d) Claims 54, 57-58, 83-85, 88-89 are similarly rejected as explained in section c) above. Further, claim 83 relates to two different independent claims 1 and 60, which is also ambiguous.
- e) Claims 55-56 and 86-87 are rejected as being dependent on the rejected base claim.

### *Claim Rejections - 35 USC § 101*

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 60-82 and 83-84 are rejected under 35 U.S.C. 101 because:

- a) Claim 60 directed to an abstract idea which only use mathematic concept. The method utilizes mathematical points to generate a mathematical line connecting the two points.
- b) Claim 61-82 are rejected as being dependent on the rejected base claim.
- c) Claims 83-84 use the method of claim 60 which is subjected to 35 USC § 101 rejection.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-20, 22-34, 36-40, and 42-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cong (US 2002/0044081) in view of Asam (2004//0135677).

a. As per claim 1 and 59, Cong discloses a method for generating a track in which a track is established to follow a path (paragraphs 0028 and 0032). Cong does not explicitly disclose storing the path data. However, Asam discloses storing path data (paragraphs 0035-0036). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to store the path data of Cong in a memory device as suggested by Asam in order to facilitate creating the track on a display by retrieving the stored data.

b. As per claim 2-3, refer to discussion in claim 1 above. Further, implementing a branch track and updating track data would have been well known to a person of ordinary skill in the art at the time the invention was made.

c. As per claim 4-9 and 14-15, Asam discloses establishing a track in a series of segments (paragraph 0036). Further, using rectangular shape segment including the capability of adjusting bend or twisting the track in term of a selected angle and representing the track as sets of co-ordinates would have been well known.



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d. As per claim 10-12, Cong discloses representing the rack path data as direction vectors (paragraph 0032). Further, including twist angle would have been well known.

e. As per claim 13, Asam discloses generating track on a display (paragraph 0045).

f. As per claim 16-20 and 42, Cong discloses representing the track as a parametric function and smoothing the curve (paragraphs 0033-0036). Further, interpolating using a predetermined parametric function for determining co-ordinates of a point on the curve would have been well known. Further, performing non-linear interpolation, cubic interpolation, iterative algorithm, perspective projection transformation defined by an aspect ratio, camera position, etc. would have been well known mathematic calculation using a well known mathematic method in determining a point on a curve of known function would have been obvious design choice.

g. As per claim 22-27, Asam discloses using camera for viewing an object (paragraph 0046). Further, displaying image captured by the camera in the camera's point of view, and displaying the image in a form of polygons in which the track nearer the camera is represented by a larger number of polygons to display larger object would have been well known.

h. As per claim 28-34 and 36-40, Cong discloses modeling the track with a number of cells (paragraph 0039). Further, modeling a space as a planet earth in which the height values correspond with the height of a specific point on the earth, and choosing a specific number of tiles, or modeling the virtual space as domestic environment, featureless with added object on the track would have been obvious design choice. Moreover, using vertex of a cell for representing a height, or using non-linear interpolation algorithm to determine a height of a model would have been well known.

i. As per claim 43-47, selecting a time frame within which necessary calculations must be completed, moving a clip plane to control the distance the camera can see, and varying the number of polygons both well-known and obvious design choice.

j. As per claim 48-58, Asam discloses implementing the track generating method on a computer (paragraph 0018). Further, storing data on a non-volatile storage device across a computer network such as internet or on a DVD or via communication line would have been well known.

9. Claims 60-65, 67-90 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sroka et al (US patent No, 5,012,413).

a. As per claim 60, Sroka discloses a track between two selected points (col. 3, lines 33-62). Sroka does not explicitly disclose manipulating the track. However, Sroka discloses configuring the track (abstract) with the capability of determining a degree of curve for each point along the track (col. 3, lines 63-65). Sroka obviously encompasses manipulating the track by selecting specific degree of curve of each point along the track in order to generate a track in a shape selected by designer.

b. As per claim 61-65 and 67-78, twisting a track in a specific angle, using a track deformation by means of wave equation in a predetermined effect, and generating sides of a track with set of co-ordinates, texture mapping the surface and selecting the degree of transparency in texture mapping technique to create characteristic effect such as snow, dust,

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barrier, height, etc. on a surface would have been well known to a person of ordinary skill in the art at the time the invention was made.

- c. As per claim 79-85 and 88-89, simulating collision between objects with propulsion force, implementing virtual track on a computer would have been well known.
- d. As per claim 86-87, refer to discussion in claims 55-56 above.
- e. As per claim 90, refer to discussion in claim 60 above.

*Allowable Subject Matter*

10. Claims 21, 35, and 41 would be allowable if rewritten to overcome the objection, the rejection(s) under 35 U.S.C. 112, first paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

11. Claim 66 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 101, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Nguyen whose telephone number is (703) 308-7915. The examiner can normally be reached on Monday-Thursday from 8:30AM to 5:00PM ET.  
The central official fax number is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1148.

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Date: September 27, 2004



**KIM NGUYEN**  
**PRIMARY EXAMINER**